

Work Order ID 64278



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December 1, 2010 12:59:54 PM

Item ID: D6102-013

Accept



Setup Start



Revision ID:

Item Name: Saddle Billet

Stop



Start Date: 12/01/10 Start Qty: 20.00



Cust Item ID:

Required Date: 12/08/10 Req'd Qty: 20.00



Customer:

Reference:

Approvals: Process Plan: CL

Date: 10/12/01

QC: _____

Date: _____ SPC (Y/N):

Tooling: _____ Date: _____

Run Start



Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr	Revision Nbr
D6102	Rev D

100

0.00



PURCHASING

Purchasing

Memo

0.00

CL 10/12/02 (20)

Purchasing

Issue P/O: 13053 a) Description: Aluminum Billet b) 7.000" x 6.500" x 2.000" thick c) Tolerance on all dimensions is +0.06/0.00 d) Grain direction along 6.500" length e) Material: 6061-T6/T6511 (QQ-A-250/11 or QQ-A-200/8) f) Material release certi

110

0.00



Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

120

0.00



QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

Check certification to Dwg D6102 for compliance

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 64278

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Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location. CNE

0.00

20

Packaging

Packaging

Memo

0.00

10/12/20

140



QC21- Final Inspection - Work Order Release

0.00

10/12/20 JJ

QC

Quality Control

Memo

0.00

YME

10-12-20

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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December 1, 2010 12:59:53 PM

Work Order ID: 64278



Parent Item: D6102-013



Parent Item Name: Saddle Billet

Start Date: 12/01/10

Required Date: 12/08/10

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP Rev:A New Issue 06-07-03 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6102-013P  6061-T6 7.0x6.5x2.0		Purchased	No			110	Each	0.0000	1	20		<i>12/12/17 (20)</i>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

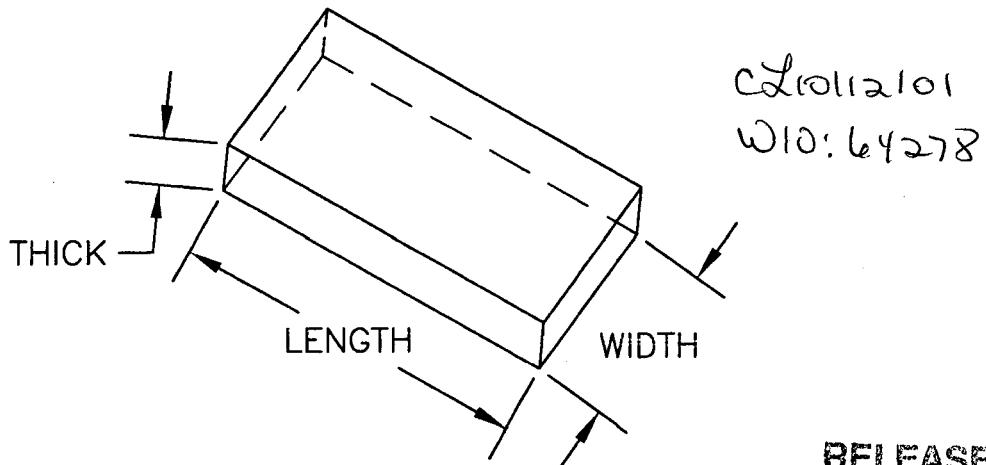
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	Rev. D SHEET 1 OF 1
		D6102	
DATE		TITLE	SCALE
06.06.30		SADDLE BILLET, 6061	NTS
A	01.03.30	NEW ISSUE	
B	03.10.20	ADD D6102-005/-007/-009	
C	04.08.25	ADD D6102-010/-011	
D	06.06.30	ADD D6102-013	

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.06/-0.00), AND GRAIN DIRECTION AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.06/-0.00.

ALL DIMENSIONS ARE IN INCHES.

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6102-001	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.880	6.250	2.000	Along 7.880 Length
D6102-003	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.000	6.250	2.000	Along 6.000 Length
D6102-005	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	47.85	15.250	1.000	Along 47.85 Length
D6102-007	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.500	7.000	2.500	Along 7.500 Length
D6102-009	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	11.000	6.000	5.000	Along 11.000 Length
D6102-010	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	7.950	8.250	2.500	Along 7.950 Length
D6102-011	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	8.250	2.500	Along 6.500 Length
D6102-013	6061-T6/T651 (QQ-A-250/11 or QQ-A-200/8)	6.500	7.000	2.000	Along 6.500 Length

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO13053**

Purchase Order Date 12/02/10
PO Print Date 12/02/10

Page Number 1 of 1

Order From : VC-MET001

METAUX CASTLE
A.M. CASTLE & CO. (CANADA) INC. - BOX B9204 PO BOX 9100
TORONTO, ON M4Y 3A5
CA

Contact Name	Buyer	Chantal Lavoie
Vendor Phone	Requisition Nbr	514 694 9575
Vendor Fax	Tax Resale Nbr	514 695 3281
Vendor Account Nbr	Terms	10127-2607
	Currency	Net 30
	FOB	CAD
		Destination-Collect

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
12/02/10

email: Chantal.Lavoie@DartAerospace.com

Line Nbr	Reference Revision ID	Description/ Mfg ID	Req Date/ Taxable	Req Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6102-013P	6061-T6 7.0x6.5x2.0	12/16/10 Yes	✓ 20.00 Each	Yours ppd	\$28.0000	\$560.00

Special Inst: AS PER DWG D6102 REV. D
B64278
MATERIAL: 6061-T6/T6511 (AS PER QQ-A-250/11 OR QQ-A-200/8)
SIZE: 7.000" X 6.500" X 2.000" THICK
GRAIN DIRECTION ALONG 6.500"
LENGTH
TOLERANCE ON ALL DIMENSION ARE
+0.06/0.00

PO Total: \$560.00

**MATERIAL CERTIFICATION
REQ'D UPON DELIVERY**

No substitution or deviation without
consent.
Certificate of Conformity or Material
Certification required when applicable

Change Nbr: 1

Change Date: 12/02/10



Castle Metals®

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Shipment No:609596

Ship From:	Sold To:	Ship To:	Deliver To:
Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7	DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA
Date Shipped	F.O.B.	Freight Terms	Carrier
16-DEC-10	ORIGIN	Prepaid	MANITOULIN

Shipment Details	Final Destination Branch - MON
------------------	--------------------------------

Order No	Line No	Item No	Description
1147341	1	8641.MO	2.0000.PL.6061.T651.ALUMINUM.48.5000.144.5000 CUT 2SIDED TO 7 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5"") X 6.5 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 6.5"")) - ALUMINUM PLATE SAW SPECIFICATIONS: QQ-A-250/11
Purchase Order No	Part Number		Ordered Qty
13053			20 PCS
Details			Invoice Qty
Delivery No.	Mill	Heat Number	Mech Id
60832306		513882A1	2
60832306		513882A1	18
Shipped Qty (LBS)			
			18.23
			164.06

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.							
We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.							
Reviewed by Authorized Castle Metals Representative: _____ Date: _____							

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4200629

Lot: 513967A0, Cast 785 Drop 25 Ingot 3

(ASTM E8/B557)

(EN 2002-1)

Tensile: Temper
T651

Dir / # Tests
LT / 2 (Min:Max)

Ultimate KSI (MPA)
49.4 : 49.7
(341 : 343)

Yield KSI (MPA)
44.1 : 44.8
(304 : 309)

Elongation %
14.6 : 15.0

(ASTM E1251)

Chemistry:	Si	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	TOT	0.05
Actual	0.68	0.6	0.28	0.09	1.0	0.18	0.18	0.02	0.01	0.00			

ALLOY LIMITS

Chemistry:	Si	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
6061 MIN	0.40	0.0	0.15	0.00	0.8	0.04	0.00	0.00	0.00	0.00	EACH	0.05
MAX	0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

TEST NOTES

6061 sheet or plate certified to AMS 4025, AMS 4026, or AMS 4027 also meets applicable requirements of AMS-QQ-A-250/11 Rev.A.

Castle Metals FP

HEAT NUMBER 513967A1

MECHANICAL ID

8641

LOT NUMBER

101292

PO NUMBER

8-3-2010

RECEIPT DATE

KAISER

SUPPLIER

SPECIFICATION

LCS

NO

COMMENT

APPROVED

BY

CERTIFICATION

KAISER ALUMINUM FABRICATED PRODUCTS, LLC (KAISER) HEREBY CERTIFIES THAT METAL SHIPPED UNDER THIS ORDER WAS MELTED IN THE UNITED STATES OF AMERICA OR A QUALIFYING COUNTRY PER DFARS 225.872-1(a), WAS MANUFACTURED IN THE UNITED STATES OF AMERICA, AND MEETS THE REQUIREMENTS OF DFARS 225.225 FOR DOMESTIC CONTENT. THIS MATERIAL HAS BEEN INSPECTED, TESTED, AND FOUND IN CONFORMANCE WITH THE REQUIREMENTS OF THE APPLICABLE SPECIFICATIONS AS INDICATED HEREIN. ALL METAL WHICH IS SOLUTION HEAT TREATED COMPLIES WITH AMS 2772. ANY WARRANTY IS LIMITED TO THE WRITTEN APPROVAL OF KAISER ALUMINUM FABRICATED PRODUCTS, LLC LABORATORY. THE RECORDING OF FALSE, FICTITIOUS, OR FRAUDULENT STATEMENTS OR ENTRIES ON THE CERTIFICATE MAY BE PUNISHED AS A FELONY UNDER FEDERAL LAW. ISO-9001:2000 CERTIFIED.

BILL POYNOR, LABORATORIES SUPERVISOR

Bill Poynor

SHIP TO: A M CASTLE & CO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131	
SOLD TO: A M CASTLE & CO - SOLD TO 3400 NO. WOLF ROAD FRANKLIN PARK, IL 60131	

KAISER
ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4200629

CUSTOMER PO NUMBER:		WORK PACKAGE:		CUSTOMER PART NUMBER:		SHIP RUN/LOAD:	GOVT CONTRACT NUMBER:
61292				8641 AMC A96061-161		101848/2	
KAISER ORDER NO:	1100864	LINE ITEM:	2	SHIP DATE:	28-JUL-2010	ALLOY:	6061
KAISER ORDER NO:	1100864	CLAD:	BARE	TEMPER:	T651	PRODUCT DESCRIPTION: KaiserSelect® Precision Plate	
WEIGHT SHIPPED:	11252 LB	QUANTITY:	8 PCS EST.	B/L NUMBER:	2028301	GAUGE:	2.0000 IN
						DIAMETER/WIDTH:	48.500 IN
						LENGTH:	144.500 IN

Certified Specifications

AMS 4027/RevN
CMMP 025/RevT

ASME SB 209/Rev2004

ASTM B 209/Rev07

Test Code: 1511

Test Results

Lot: 512535A6 Cast 787

Drop 20

Ingot 3

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	48.9 : 49.6 (337 : 342)	43.6 : 44.9 (301 : 310)	15.0 : 15.1

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.68	0.5	0.35	0.08	1.0	0.20	0.11	0.02	0.01	0.00	TOT 0.06

Lot: 513882A1 Cast 785

Drop 41

Ingot 5

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T651	LT / 2 (Min:Max)	49.4 : 49.7 (341 : 343)	43.9 : 44.0 (303 : 303)	14.9 : 15.3

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.71	0.6	0.29	0.08	1.0	0.19	0.16	0.02	0.01	0.00	TOT 0.05